

AN ORDOVICIAN AULUROID FROM CALIFORNIA

By FRED B. PHLEGER, JR.

During the fall of 1931 John H. Bradley, Jr., had the good fortune to find specimens of an auluroid in the shales of the Barrel Springs formation. Dr. Bradley has generously placed these specimens at the author's disposal. The rest of the Barrel Springs fauna is Middle Ordovician in age and has been described elsewhere.¹

Phylum ECHINODERMATA

Class STELLEROIDEA

Subclass AULUROIDEA

Order LYSOPHIURAE Gregory

Family PALAEOPHIURIDAE Gregory

GENUS INYOASTER gen. nov.

The rays are long and slender. The plates alternate with each other. The ambulacralia are considerably smaller than the adambulacralia and are subquadrate in form.

It is difficult to compare *Inyoaster* with other genera, inasmuch as detail of either surface is not preserved. Absence of all features of the actinal surface is especially regrettable. *Palaeophuira* Stürtz may be closely related to *Inyoaster* but differs in having rod-shaped ambulacralia which are very narrow. The plate arrangement of *Inyoaster* somewhat resembles that of *Ptilonaster* Hall, but *Inyoaster* is distinct from Hall's genus in lacking the marginal series of plates.

Genotype: *Inyoaster bradleyi* sp. nov.

INYOASTER BRADLEYI sp. nov.

Plate 20, figs. 1, 2

One of the two specimens shows the shape of the central disk and the arrangement of the rays. It has been replaced by pyrite which is so badly altered that many details of structure have been obliterated. In the second specimen there is an excellent preservation of most of the water-vascular system in two of the rays. The radial water-vessel and its branches are exposed from the abactinal surface, and casts of the podial cavities are present. The ambulacralia and the adambulacralia are so poorly preserved that their shape on the abactinal surface is only suggested in most cases.

Although the shape of the actinal surfaces of the ambulacralia must be inferred, it does not seem probable that they are

¹ Phleger, Fred B., Jr., Notes on Certain Ordovician Faunas of the Inyo Mountains, California, Bull. Sou. Calif. Acad. Sci., vol. 32, pt. 1, 1933, pp. 1-21, pls. 1-2.

boot-shaped. Thin spines are produced laterally from the adambulacralia. The interskeletal radial water-vessel proceeds in a sinuous course from the central disk to the end of the ray. Short water vessels branch off from each lateral apex of the main canal and enter the podial cavities, which are mound-shaped, with the summit of the mound upward.

Measurements:

Length of the rays (average)	26 mm.
Width of the central disk	16 mm.
Width of a ray at the widest part	4 mm.
Width of a podial cavity	$\frac{3}{4}$ mm.

Horizon and locality: Barrel Springs formation, one-half mile east of Barrel Springs, Inyo Mountains, Calif.

The cotypes are Mus. Comp. Zool. Nos. 50 and 51.

The paratypes are Los Angeles Museum Nos. A-3158.1 and A-3158.2.

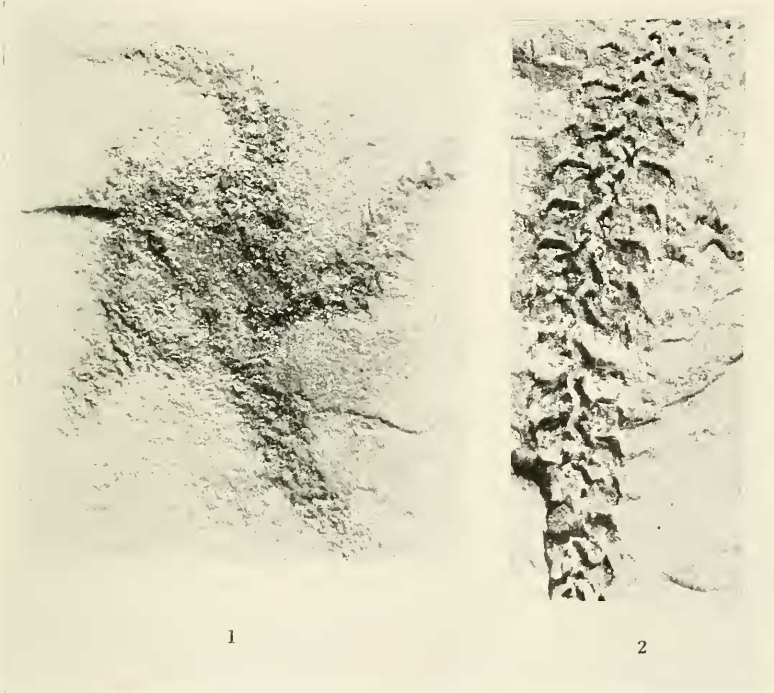


PLATE 20

FIG. 1. Photograph of the most complete specimen of *Inyoaster bradleyi* Phleger, $1\frac{1}{2}$ x natural size.

FIG. 2. Photograph of a portion of a ray of *Inyoaster bradleyi* Phleger, showing a cast of the water-vascular system. Approximately 3 x natural size.